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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,984	10/28/2003	Takeshi Kimura	040302-0353	3973

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EXAMINER	
LIEU, JULIE BICHNGOC	
ART UNIT	**PAPER NUMBER**
2636	

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/693,984	KIMURA ET AL.	
	Examiner	Art Unit	
	Julie Lieu	2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19,24 and 25* is/are rejected.

7)☒ Claim(s) *20-23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to Applicant's amendment filed July 08, 2005. Claims 1-19 have been amended. New claims 20-25 have been added.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5-7, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinmura et al. (US Patent No. 6,289,281).

Claim 1:

In reference to fig. 3, Shinmura et al. discloses an warning apparatus for a vehicle, comprising:

a. a contact possibility information unit 44configured to determine a contact possibility of the vehicle contacting with an object that is present in front of the vehicle

according to relative motion between the vehicle and the front object, the contact possibility information unit providing a contact possibility information by changing at least one of the driving force and the braking of the vehicle according to the contact possibility

b. a driver intention detector 44i configured to detect a driving intention of a driver of the vehicle (e.g. by detecting acceleration, speed, steering angle, etc...), the driver intention detector detecting at least a driving intention of the driver that the driver is driving the vehicle in recognition that the possibility of the vehicle contacting the object is increasing

c. a controller 44b configured to modify at least one threshold (by threshold value changing means 44e) for providing the contact possibility information according to a detection result provided by the driver intention detector.

Claim 2:

In the Shinmura reference, the driving intention is that the driver intentionally brings the vehicle closer to the front object when the vehicle is driven in a steady state (distance detector laser radar 66).

Claims 5 and 6:

In Shinmura, in the case he driver intention detector detects that the driver is intentionally bringing the vehicle closer to the front object with the vehicle in a steady driving state, the warning controller reduces a control value to change the driving torque or braking torque applied by 44g on the vehicle brake.

Claim 7:

The relative motion in Shinmura is a relative speed between the vehicle and the front object (col. 5, lines 15-32). In the case where the driver intention detector detects that the driver is intentionally bringing the vehicle closer to the front object with the vehicle in a steady driving state, the warning controller reduces a control value to change the driving torque or braking torque.

Claim 18:

In reference to fig. 3, Shinmura et al. discloses an warning apparatus for a vehicle, comprising:

a. a contact possibility information means 44configured to determine a contact possibility of the vehicle contacting with an object that is present in front of the vehicle according to relative motion between the vehicle and the front object, the contact possibility information unit providing a contact possibility information by changing at least one of the driving force and the braking of the vehicle according to the contact possibility

b. a driver intention detecting means 44i configured to detect a driving intention of a driver of the vehicle (e.g. by detecting acceleration, speed, steering angle, etc...), the driver intention detector detecting at least a driving intention of the driver that the driver is driving the vehicle in recognition that the possibility of the vehicle contacting the object is increasing

c. a controlling means 44b configured for modifying at least one threshold (by threshold value changing means 44e) for providing the contact possibility information according to a detection result provided by the driver intention detecting means.

Claim 19:

The rejection of claim 19 recites the rejection of claim 1, except it is a method claim.

Claim 24 and 25:

The coefficients K1 and K2 are the first and second virtual springs.

Claim Rejections - 35 USC § 103

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinmura et al. (US Patent No. 6,289,281) in view of Maruko (US Patent No. 6,604,042).

Claim 3:

Shinmura fails to disclose detecting the driver's intention of lane changing as the driver is intentionally bringing the vehicle closer to the front object, though the reference implicitly infers such detection based on the distance, steer torque, and steer angle. That is these values would infer that the vehicle is changing its lane. Further, the concept of detecting this condition as well known in the art as taught in Maruko wherein the detection of lane changing would be considered as part of determination of application of braking force. In light of this teaching, one skilled in the art would have readily recognized the desirability of using lane changing status as a condition for the same reason as taught in Maruko.

6. Claims 8-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinmura et al. (US Patent No. 6,289,281) in view of Levine (US Appl. No. 20030014176).

Claims 8-14:

Shimura fails to disclose that the controller releases the modification after a predetermined time. However, the concept of limiting the warning by changing the time is known in the art as taught in Levine, wherein a timer 117 is used to change the amount of control based on the detected driver's intention. In light of this teaching, it would have been obvious to one skilled in the art to apply this concept in the Shinmura system to limit the overriding control to a predetermined time delay as it is unnecessary.

Claims 15 and 17:

The system in Shimura detects proximity, i.e. the relative distance between the vehicles. Though it is not clearly disclosed that the contact possibility warning unit determines a contact possibility by comparing a time derived by dividing a relative distance between the vehicle and the front object by a speed of the vehicle with a threshold and provides a contact possibility warning under a first control condition according to the determined contact possibility, the reference does suggest measuring the time interval between the transmission and reflection of the radar signal. Measuring the time is equivalent to deriving the time from the distance and the speed of the vehicle.

Shimura fails to disclose that the controller releases the modification after a predetermined time. However, the concept of limiting the warning by changing the time is known in the art as taught in Levine, wherein a timer 117 is used to change the amount of control based on the detected driver's intention. In light of this teaching, it would have been obvious to one skilled in the art to apply this concept in the Shinmura system to limit the overriding control to a predetermined time delay as it is unnecessary. The controller delays the timing of providing the warning by changing the first threshold by changing the delay of timer 117.

Claim 16:

In Shimura, the driving intention is determined as being that the driver intentionally brings the vehicle closer to the front object with the vehicle being driven under a steady state; and the warning controller reduces a control value to change the driving force or braking force by changing the first control condition (threshold value).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinmura et al. (US Patent No. 6,289,281) in view of Maruko (US Patent No. 6,604,042) and further in view of Maruko (US Patent No. 6,604,042).

Claim 4:

The driver intention detector in the combined system of Shimura and Maruko delays the timing of providing the contact possibility warning in a case where the front object is in a lane to which the vehicle is going to change its lane.

Allowable Subject Matter

8. Claims 20-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Remarks

9. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Lieu whose telephone number is 571-272-2978. The examiner can normally be reached on MaxiFlex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Julie Lieu
Primary Examiner
Art Unit 2636

Oct. 23, 05